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NEEDS AND GOALS FOR POLICE TRAINING

A. G. BARRY*

The objectives of this study are (1) to show the kind of training policemen need; (2) to show the difficulties to be met in giving them this training; and (3) to present a plan which will meet their needs and overcome as many of the difficulties as possible. Before one can outline the training demanded by this vocational group, a study must be made of the tasks involved in the profession and the kind of men to be trained. The difficulties to be met can be learned by a study of those encountered in police training already under way. Additional light will be thrown on difficulties by an analysis of the job and of the qualifications of the men engaged in it. If policemen are dealing with social and individual problems with little specialized training or with training poorly adapted to their needs studies will show this condition and point to a solution.

An historical survey of the 100 years since the establishment in London of the first municipal police force reveals changes in our civilization of a technical and social nature which profoundly affect police procedure and police training. Prominent among the technical changes are those connected with transportation. From city streets travelled by pedestrians and horse-drawn vehicles, we have developed crowded thoroughfares with automobiles, surface cars and motor busses moving at a rate which demands supervision. The automobile, an invention of the 90's, was used by thousands in 1900, by the hundred thousand in 1910, and by millions in 1915[1] Cars were first built to travel at 15 miles per hour while now the poor man's car will travel 60 miles per hour with ease.[2] Hard surfaced roads constitute another

*Superintendent Juvenile Detention Home, Chicago, Ill.

[1]Cars registered by 5 year period from *Facts and Figures for the Auto Industry*, National Auto Chamber of Commerce, 1927.

	Passenger cars	*Trucks*
1895	7	....
1900	8,000	....
1905	77,400	600
1910	458,500	10,000
1915	2,309,666	136,000
1920	8,225,859	1,006,082
1925	17.512,638	2,441,709

[2]The new Ford is recognized among police officials as one of the fastest of the light cars. Its speed and rapid pick-up not only make it a traffic problem but an agency through which a law violator can make a quick escape.

technical change which has affected the police problem. The combination of fast cars, good roads, shorter working days and higher standards of living has thronged our city streets with a medley of tourists from other districts. Even if they are all law-abiding, this stream of travellers makes the policeman's work more difficult.

In 1829, detection and identification was a skill acquired by practice. Today it has become a science with a number of important subdivisions.[3] In 1893 the Bertillon system of identification became a standardized technique with the publication by Alphonse Bertillon of his manual of identification.[4] The development of dactyloscopy is not so definitely associated with one man as is the system of bodily measurements. After much experimentation and casual use it became recognized as an important scheme of classification through the work of Sir Francis Galton's *Finger Prints,* published in (1892).[5] It has been simplified by Sir Edward Richard Henry[6] and while still in the process of improvement,[7] it constitutes an accurate system wholly unknown in the early days of police work. The evolution of this scientific classification of human beings is so recent that its possibilities have been but partially sensed.

Whether or not *modus operandi* classifications have become standardized and perfected enough to be called scientific, they give us a volume of information which the police officer of today cannot afford to ignore.[8] Perhaps the growth of this body of knowledge should be classed among the social changes affecting the policeman's work since *modus operandi* records are so largely dependent on the predictable nature of human behavior.

The miscroscope has recently been applied in new ways which make it an important aid to detection and identification, as in the identification of bullets[9] and in the analysis of dust and other particles.[10]

[3]Dilnot, George, *Story of Scotland Yard,* 1927 Chapters III, VII.

[4]*The Bertillon System of Identification* (English translation), 1896, edited by Maj. R. W. McCloughry, and Wilder and Wentworth, *Personal Identification,* p. 343.

[5]Wilder and Wentworth, *Personal Identification,* pp. 340 ff.

[6]Henry, Sir Richard, *Classification and Uses of Fingerprints,* 1900.

[7]Larson, J. A., *Single Fingerprint System.* 1923.

[8]Dilnot, *Story of Scotland Yard,* pp. 291 ff.

[9]Goddard, Calvin H., "Scientific Identification of Firearms and Bullets," *Journal of Criminal Law and Criminology,* Vol. XVII, No. 2, August, 1926; Goddard, C. H., "Who Did the Shooting?", *Popular Science Monthly,* November, 1927, p. 21.

[10]"May Hunts Criminals with a Miscroscope", American Magazine, 102: Stewart, H. A., "How a Famous Expert Solves Mysterious Crimes", *American Magazine,* 97: March, 1924, pp. 38-40; September, 1926, pp. 24-25.

Chemistry, in the science of toxicology and in the analysis of inks and other stains, has prepared another possible hazard for the law violator which might just as well be non-existent if the men charged with his capture and identification know nothing of its possibilities. Chemistry can determine whether given stains are from human or animal blood or from other material; whether poisons, adulterants or injurious substances are present and in what quantities.[11] Photography may be cited as another development with a close bearing on police work.

Among the social changes affecting police problems may be mentioned the growth of cities, the wide dissemination of knowledge, the changed nature of public opinion, and the ascendancy of the "sciences" of human behavior. While the mere growth of cities in size and number is bound to affect the protection of citizens and property in them, it seems less important in America than the conflicts of national and racial tradition represented in our large cities,[12] and the congestion leading to the elimination of playspace and physical and social sanitation.[13]

In contrast to the scientific revolution effected by Copernicus, Galileo, Descartes and others, which did not immediately affect the life of the masses, the industrial revolution and the rapid expansion of education has affected it and has placed a heavy burden on the shoulders of an untrained police force.

While other forms of service are now being done by professionally trained men, the police have stood still. Lack of training was not so important a defect in the police system when society's enemies seldom had access to the halls of learning, but in an age in which a James Henry Wilkin can train himself from library sources, it becomes serious.[14] Ignorance was not conspicuous in 1829 but it becomes a handicap when increasing numbers of our citizens are educated.[15]

People, especially in America, believe less and less in the sacredness and infallibility of law. From a belief in its origin with an omnipotent, omniscient, and omnipresent deity or with a heaven inspired

[11]Chemistry as a Crime Detector, *Literary Digest,* 80: March 29, 1924, pp. 23-24.

[12]Fosdick, R. B., *American Police Systems,* Chapter I; Thrasher, F. M., *The Gang,* Chapter I.

[13]Thrasher, F. M., *The Gang,* Chapter VIII; Gillin, J. L., Wholesome Citizens and Spare Time, *Cleveland Crime Survey,* pp. 38-42.

[14]Thomas, W. I., *The Unadjusted Girl,* pp. 236-240.

[15]While the population increased 73.5% from 1890 to 1922, high school enrollment increased 610% and college enrollment 346%. *Statistical Survey of Education,* United States Bureau of Education, 1921-1922, p. 8.

ruler, they have come to look upon laws as social experiments by which they may be able to solve the problems which cause friction and unhappiness. Laws originate with majorities and majorities are constantly shifting. A law supported by public opinion today as a wise experiment may be condemned tomorrow as a failure. This change in belief in both origin and function of law puts a tremendous added strain on the executive branch of government. There is a lag in the smaller political units between an expression of the public will and the enactment of a law in response to this expression. By the time a law is enacted, public opinion may have changed so much that enforcement becomes impossible for an executive branch of government which is directly dependent on public opinion for its tenure of office.

This condition is made worse by the zeal Americans have for solving social problems by legislation and by the high prizes offered by the evasion of such laws as the Volstead Act, as compared with the small rewards and the large dangers of enforcement. The law (as a control) is also being affected by the developments of social science which in turn are affecting the concepts of "responsibility" and "freedom of the will."[16]

So much has been written on changing community standards that only a few sentences will be needed to point out the connection between them and a new police technique. That communities are numerous in which a wide range of behavior will meet with the approval of some faction has been made evident by many studies. Changes in the concepts "family" and "home" for example, indicate a trend toward individualization of patterns.[17] We have passed a multitude of laws to protect the "family" and the "home" and the "proper" use of the sex function. Which laws are the police going to enforce in a city which presents the paternal, the emancipated, the equalitarian and the maternal types of family and a wide range of "approved" sex conduct? To enforce the old laws is impossible. To wait for the public and legislature to change the law is equally impossible. There are at least two alternatives: (1) To "muddle through," trying to size up public opinion so that too many influential citizens will not be offended or (2) to take the lead in readjustment. The police from their first-hand contact with social problems are in an advantageous

[16]Glueck, S. Sheldon, *Mental Disorder and the Criminal Law,* 1925; Hoag, E. B., and Williams, E. H., *Crime, Abnormal Minds and the Law,* 1923; Randall, J. H., *The Making of the Modern Mind,* 1926.

[17]Mowrer, E. R., *Family Disorganization,* Chapt. V; Van Waters, *Youth in Conflict,* Chapt. II; Van Waters, *Parents on Probation,* Chapt. II; Groves, E. R., *Social Problems of the Family,* especially Chapt. XII.

position to conduct research and to guide public opinion at least in matters of fact.

This opportunity is realized by some police executives but is balanced by at least two difficulties; (1) the close connection of the police with politics, and (2) the lack of training of the men in science and other fundamentals. The same difficulties confront the police in the control of gambling, drinking and many other practices which may constitute social problems.

It is difficult to measure the changes in religion, ethics and philosophy which affect the police. The trend seems to be from control by fear of a merciless God and a more horrible devil toward an appeal to the human desires for recognition and response. It is impossible to forecast for the distant future the effect of these changes on social control. We can, however, observe some of the effects during the transition period. At a time of such profound change in the interpretation of life as the one represented by the contrast between a theological interpretation of human personality and a behavioristic interpretation in terms of electrons and protons, many untrained folk will be badly confused. Police are familiar with the character who, having lost all fear of the old God or devil, has become an enemy of society.

Dean Roscoe Pound has stated the change in attitude toward law as law; "While the lawyer as a rule still believes that the principles of law are absolute, eternal, and of universal validity, and that law is found, not made, the people believe no less firmly that it may be made and that they have the power to make it. While to the lawyer the state enforces law because it is law, to the people law is law because the state, reflecting their desires, has so willed. While to the lawyer law is above and beyond all will, to the people it is but the formulation of the general will. Hence it often happens that when a lawyer thinks that he is enforcing the law, the people think he is overturning the law. . . . This conflict between the lawyer's theory and the political theory weakens the force of law. The lawyer's theory leads him to pay scant attention to legislation, or to mold it and warp it to the exigencies of what he regards as the real law. . . . On the other hand, the people's theory that law is wholly a conscious product of the human will tends to produce arbitrary and ill-considered legislation impossible of satisfactory application to actual controversies. Each of these absolute theories must be given up. . . .

"The chiefest of social interests is the moral and social life of

the individual; and thus individual interests become largely identical with a social interest. . . . Although we think socially, we must still think of individual interests, and of that greatest of all claims which a human being may make, the claim to assert his individuality, to exercise freely the will and the reason which God has given him. We must emphasize the social interest in the moral and social life of the individual. But we must remember that it is the life of a free-willing being."[18]

Perhaps even more important in its effect upon police problems than the changes already discussed is the evolution of a group of "sciences" of human behavior. While these "sciences" seem to the practical man to be in a highly controversial and transitional stage, they have already accumulated a body of knowledge which he cannot afford to ignore. While most of the histories of police departments are still written from the propagandist or other uncritical viewpoint, volumes like Fosdick's *American Police Systems* and *European Police Systems* and Dilnot's more recent *Story of Scotland Yard* give the policeman of today a chance to profit from the successes and failures of the past and give promise of more and better police histories.

In the field of sociology a significant body of facts has already been accumulated which gives promise of greater achievements. William Healy's investigations in Chicago and Boston have become classic.[19] The various state crime commissions and the National Crime Commission have also given us information worthy of serious consideration. Data from these sources reveal the viewpoint that human behavior belongs among the phenomena which can be explained in terms of their antecedents. Especially noteworthy in this respect are some of the studies of the New York Crime Commission.[20]

These citations are illustrative of the point of view that crime can be understood and intelligently dealt with only by a study of the conditions which produce law violators. Psychology, social psychology, social pathology, and psychiatry have perhaps developed more objective methods than sociology and have produced data on

[18]Pound, *The Spirit of the Common Law*, pp. 99-100, and 110-111.

[19]Healy, Wm., *Individual Delinquency;* Healy and Bronner, *Delinquency and Crime;* Healy and Bronner, *Judge Baker Foundation Studies;* Healy et al., *Reconstructing Human Behavior.*

[20]Report of the Crime Commission, Feb. 28, 1927, Legislative Document No. 94, *Individual Studies of 145 Offenders,* by the Sub-Commission on causes and effects of crime, 1928; *A Study of Environmental Factors in Juvenile Delinquency,* by the Sub-Commission on causes and Effects of Crime, 1928; *From Truancy to Crime,* A Study of 251 adolescents by the Sub-Commission on Causes and Effects of Crime, 1928.

human behavior problems that the policeman can no longer afford to ignore.

Our social "sciences" are claiming that human behavior is a proper subject matter for scientific investigation. If we accept the viewpoint that social scientists must take, in claiming for their work scientific rating, our view of the policeman's work will not be merely modified, it will be revolutionized. We can no longer tolerate the mere "executive of the law" standing idly by until laws are violated. We must develop a man able to predict, to diagnose and to treat individual and social maladjustments. We may still tolerate lawyers who make a fortune by defending the guilty and convicting the innocent but we cannot conscientiously tolerate apathy, ignorance or collusion in the members of a group paid from the public treasury for public protection and service.

The kinds of training now being offered policemen may be roughly grouped into four types: (A) Those in which experience is often the main teacher; (B) those in which technique is emphasized, i. e., such forms as will enable a man to execute specific orders more efficiently; (C) those applying scientific classification to the problems of identification, capture, detection, and conviction; and (D) those dealing with the antecedents of the problem, i. e., with diagnosis, prognosis, prevention and therapy in the light of experiments already tried. There are some indications that a fifth type is developing (E) one in which preparation for research will be emphasized—a training which will encourage the policeman to make a contribution to an understanding of the problems with which he must deal by a careful objective study of facts. The foregoing classification was arrived at by a study of the data returned by 39 cities and schools.

An analysis of the policeman's work shows his material to consist chiefly of people and social situations. It would seem logical to train him in those disciplines or sciences which would enable him to understand people and social situations just as we would teach a mechanic to understand inanimate materials and their manipulation. This conclusion would give a prominent place to the social sciences in any plan of police training.

Skills developed by types A, B, and C training are so important that they must not be displaced by training in the social sciences. A plan for training policemen, then, which prepares them for professional status must provide for or encourage types of training to develop physical fitness and those skills which come from practice and desirable subjective qualities, and procedures essential to detection, iden-

tification and capture as part of the educational plan or as a preliminary step to it.

It is quite apparent that (1) there has been, as yet, little agreement as to the details of a police school curriculum; (2) there have been many gaps in the curricula of police schools which make them fail to meet the policeman's needs; (3) the general lines of training needed are recognized and many experiments are under way in an effort to work out a plan and curriculum adapted to the needs of policemen and the possibilities of the situation.

In the spring of 1927 a request came to the University of Wisconsin from Chief T. W. Logan of Kenosha for aid in the development of their police school as part of the merit system for policemen already adopted by that city. Chief Logan had introduced a resolution in the Wisconsin Convention of Chiefs of Police held in Milwaukee, as follows:

"Whereas the present day criminal is using the most advanced and scientific plans and methods of committing crimes and avoiding detection; and

"Whereas it is difficult for the various Police Departments of the state to keep pace with the application of modern and scientific devices used by criminals in committing crime and avoiding consequent detection; and

"Whereas it is impossible for most of the cities of the State of Wisconsin to secure men for the Police Department who have had sufficient training to cope successfully with the modern criminal; and

"Whereas it is necessary to furnish training to the inexperienced as well as the experienced members of the Police Department if adequate and satisfactory results are to be obtained by the Police Department; and

"Whereas we believe that the State of Wisconsin should furnish opportunity for the training of all members of the Police Department of the various cities in the state; and

"Whereas the University of Wisconsin of the State of Wisconsin, through its Extension Division, can furnish adequate instructions and training to the Police Departments of the various cities of the state relative to the prevention and detection of crime;

"NOW, THEREFOR, BE IT RESOLVED by the Association of Chiefs of Police of the State of Wisconsin that the attention of the president of the University of Wisconsin, the Chief of the Extension Division, and the Board of Regents of the University of Wisconsin be directed to the necessity of furnishing the opportunity to the mem-

bers of the Police Departments of the various cities of the state to obtain instruction relative to criminology, the detection of crime and kindred subjects through lectures and instructors, and that we request that aid be given to the members of said Police Departments to become more efficient in their duties and to become better trained to prevent and suppress crime and apprehend criminals so that the Police Departments of the state may furnish better protection to the lives and property of the citizens of our commonwealth.

"BE IT FURTHER RESOLVED, that we pledge ourselves to cooperate with the authorities of the University of Wisconsin and to support its officers who furnish the assistance requested.

"BE IT FURTHER RESOLVED, that the secretary of this organization forward a copy of this resolution to the President of the University of Wisconsin, to the Chief of its Extension Division, and to the president of the Board of Regents."

A motion for the adoption of this resolution was lost. Therefore, Kenosha proceeded independently to develop its own school in cooperation with the University of Wisconsin. The outline submitted to Chief T. W. Logan and City Manager C. M. Osborn met with immediate approval. The course was ordered for the first semester of the year 1927-1928.

Some valuable lessons had been learned concerning police needs and police limitations from the experience of giving a course in Criminology and Penology to a mixed group of teachers, preachers, social workers and policemen in Kenosha in 1926-27. This was a credit course and the difficulties of interesting the varied groups represented and of maintaining high standards at the same time were almost insurmountable. The experience made possible, however, a better outline in 1927.

This series of lectures and discussions was first given in Wisconsin at Kenosha in the fall semester of the year 1927-28 and at Janesville in the spring semester of the same year. In the latter city a course entitled The Individual and His Social Adjustment, given to a group of teachers and citizens, helped in focusing attention on the problems of police work as many of the students in the credit course became interested in and attended the lectures given to the police in the evening. Both attempts at police training were favorably received by the men and brought requests for the organization of follow-up courses.

The first series of lectures has now been given to the police forces in ten Wisconsin cities and the second series in four of these cities

which were ready for it. That these two series of eighteen lectures each are not sufficient to make of policing a profession is evident. Other series have not been worked out in detail because the political and business aspects of this educational program must be considered and because it was thought best to profit by the experience gained in preliminary efforts. Every course should not only be influenced by an ideal plan but must be adapted to demands. These demands are influenced by public opinion and by types of men to be trained and these forces cannot be foreseen. That the University of Wisconsin Extension Division is adapting its program to meet a real need is illustrated by the recent development (May 2, 1929), in which a request was made by one city for an interim reading and lecture course to be given between the yearly courses of 18 weeks.

A topical outline of the lectures given Wisconsin police in the first two series is shown below.

UNIVERSITY OF WISCONSIN EXTENSION DIVISION

Madison, Wisconsin

These courses attempt to absorb and digest a large amount of material in the specialized fields of chemistry, physics, biology, psychology, psychitary, sociology, law, and medicine and to apply this knowledge to specific practical problems arising from the detection of crime and criminals.

Topical Outline

Subjects of Police Problems, Course 1

1. Police Schools.
2. The Extent and Cost of Crime; Importance of Records, Statistics, and Accounting Methods.
3. History of Police Methods and Theories of Punishment.
4. The Laws of Human Behavior.
5. Kinds of Criminals and types of Crime; Classification.
6. The Mentally Abnormal Criminal.
7. Some Environmental Causes of Criminality.
8. Other Causes of Crime.
9. Round Pegs in Square Holes; Selection of Police; Selection of a Job.
10. Special Skills Needed by Policemen, and Methods of Getting Them.
11. The Detection of Crime and the Identification of Criminals.
12. Some Practical Uses of Psychology and Sociology.
13. The Control of Crowds.
14. The Preparation and Presentation of Testimony.
15. Our Systems of Justice.

16. Important Laws and Police Procedure in Dealing with Common Crimes.
17. Some Modern Theories and Methods.
18. Administrative Problems.
Examination.

Subjects of Police Problems, Course 2.

1. Making Public Opinion Help in Law Enforcement.
2. Note Taking and Writing Reports for Court Testimony.
3. The Convincing Presentation of Facts.
4. Making Use of Criminal Psychiatry and the Psychiatrist.
5. Supervision, Arrest, and Custody of the Mentally Abnormal.
6. The Practical Use of Criminal Psychology (continued from course 1).
7. Applied Criminal Sociology or "Criminology."
8. How and What to Know About Our Community.
9. The Work of Relief Agencies and Its Bearing on Crime.
10. The Value of Promptness in Securing Complete and Accurate Evidence.
11. The Use of the Microscope and its Revelations.
12. The Meaning of Controlled Conditions and Controlled Experiments.
13. Toxicology—Making the Chemistry of the Human Body Furnish Evidence.
14. Recent and Future Applications of Science to Policing.
15. Keeping Fit and Rendering Service.
16. Our Shifting Population and the Police Problem.
17. The Policeman and Specific Law Enforcement Problems.
18. Shall We Copy European Police Systems?
Examination.

This outline is not presented as a final one nor as one best adapted to the needs of a professional group of policemen or a group of recruits. It is presented as a tentative plan during a transition period partially to meet the needs of policemen with comparatively little school training and many years of experience. When public opinion and the policemen themselves recognize the need for professional training on the part of the police officer as imperative, many of these lectures will have to be expanded into year courses and the whole plan will have to be rearranged to fit the new situation. While this outline is adapted to the present state of public opinion and the present capacity of policemen an attempt has been made to make it possible for ambitious or especially talented men to cover as much material by following assigned readings as might be required in a course for members of a well trained profession.

It is difficult to measure results in an objective way at this stage

of the program. Weekly true-false tests are now being used as much to promote discussion and stimulate interest as to measure progress. It is too early yet to attempt an accurate objective evaluation of the effect of this training on the policeman's work and on society's problems.

Since so much of a policeman's efficiency depends on his ability to observe quickly, accurately and fully, considerable attention has been given to an attempt to develop this ability in Wisconsin police schools. While the purpose has been primarily to instruct and inform, some data have been accumulated on the ability of policemen to give a complete and accurate account of what they see.

The work of measuring the men was carried on in this way: A lecture giving an introduction to the tests on observation was given and then a film was run to reinforce and illustrate the points made in the lecture. The method of checking and grading the men was done as follows:

A. A film such as one showing the use of automobiles on the highways adapted to this sort of work was previewed and a series of true-false statements compiled regarding it. These statements could be correctly checked only by close attention and skillful observation.

B. The papers written by the men were scored and returned with errors clearly marked. A percentage of error was computed for the department on each statement in the test by, (1) Counting the number of errors, (2) multiplying by two (to eliminate chance), (3) this number was used as the numerator of a fraction the denominator of which was the total number of papers written, (4) then in case the numerator was larger than the denominator the difference between the two was taken and the percentage given a negative value. The number shown for each statement is the percentage of error for the police force indicated on the chart. The larger the number the larger the error. A percentage of error score of 100% then, would indicate that the papers were written with the same degree of inaccuracy that would exist if the men had not seen the picture at all. Negative percentages indicate worse results than would be expected from a chance writing of the papers.

To preserve anonymity each city is indicated by a letter as City A, B, etc. In a few cases it is possible to get a comparison between the results obtained from policemen and other citizens given the test at the same time or under similar conditions. Comparisons between two police departments on the basis of their scores on any one test are unjustified because lighting and other effects could not be standardized.

The charts present data collected in the one case from 136 individuals in 5 groups and in the other from 162 individuals in 6 groups. The individual differences shown by the range in scores represents a real difference because the men on the same police force saw the picture under identical conditions. Where the same picture was shown to different groups as much pains as possible was taken to standardize conditions. To show the men where and why mistakes had been made, each film was run a second time after the papers had been corrected and percentages of error computed for each item in the observation test.

POLICE PROBLEMS COURSE 1

TRUE AND FALSE TEST

The following statements are designed to test the powers of observation after viewing the film "Squeaks", call number 2497, Bureau of Visual Instruction, University of Wisconsin, Madison, Wisconsin. Some of the following statements are true and some are false—inserted for the purpose of misleading the observer unless he has watched the film very carefully. The exercise is not intended to be used as an examination or test in the usual sense, but as a step in developing the powers of observation. It is designed especially for policemen with the main emphasis on the observation of acts or objects which might be of importance in the policeman's work. Some of the statements will assert that objects not appearing in the picture were present and others will refer to objects which were shown but which, perhaps did not occur in the place stated. Other statements will describe objects or actors just as they appeared in the picture. Write the letter (T) in the parenthesis before each statement you think is true. Write the letter (F) in the parenthesis before each statement you believe is false. You may take any notes you please during the showing of the pictures but please do not communicate with your neighbor either before or after the showing, until all papers have been collected. The directions will be read and questions answered before the filming; and immediately after the filming, the directions will be read again without answering any questions which might affect the subject matter. The questions should be marked thus: (Demonstrate on blackboard).

(T) Four or more people were watching the boy when he fell from the cliff.

(F) The picture was taken in winter.

The following statements are to be marked (T) or (F). Be sure to read each statement carefully before marking it. You may refer to your notes but do not ask your neighbor. You will have ( ) minutes to answer the questions.

( ) 1. The baby was crying because he wanted the bottle which was to be seen in the lower right hand corner of the picture.

( ) 2. The baby was crying because an open safety pin was pricking his left leg above the knee.
( ) 3. The baby was crying because an open safety pin was pricking his right arm.
( ) 4. In the animated drawing a workman was shown fastening the wheels on a chariot by driving wedges through the axles.
( ) 5. While doing the work referred to above, the workman pounded his middle finger.
( ) 6. While doing the work referred to above, the workman pounded his thumb.
( ) 7. The driver of one of the old wooden chariots cooled and lubricated one of the axles by scooping up some water in an old tin can and pouring it over the axle.
( ) 8. The axle was cooled and lubricated by dipping up the water in the cupped hands.
( ) 9. Water was poured on both wheels.
( ) 10. One of the titles stated that when Xerxes' army crossed the Hellespont the squeaking axles of his war chariots could be heard ten miles.
( ) 11. Some inconsistencies appeared in the cartoon. While waiting for reinforcements, an officer watched their approach by aid of a field glass.
( ) 12. The same officer used something that looked like and was used like chewing tobacco.
( ) 13. He kept track of the time of day by looking at his watch.
( ) 14. Dinner was prepared on an iron cook stove.
( ) 15. A typewriter appeared in the picture.
( ) 16. Modern cannons and machine guns were used.
( ) 17. An aeroplane was used for scouting.
( ) 18. A printed journal was shown called the "Police Gazette".
( ) 19. The box on which the typewriter rested was labeled "soap".
( ) 20. Apparently the army was defeated because their enemy was better armed than they.
( ) 21. The army was defeated because reinforcements failed to arrive.
( ) 22. It was intended that the picture convey the idea that the matter of lubrication was important enough in ancient times to cause defeat of a great army.
( ) 23. The license number on the old squeaky car began with the numbers 37.
( ) 24. The license number on the old car began with the numbers 42.
( ) 25. Give the license number or as much as you could see and remember of it on this line: (.....)
( ) 26. This old car had a single rectangular window in the rear.
( ) 27. The old car had two oval rear windows.
( ) 28. The old car was a touring car.
( ) 29. The driver of the old car when he was first seen had no hat.
( ) 30. The driver of the old car wore a straw hat.
( ) 31. This driver was bald headed.
( ) 32. The lady in the old car wore a hat decorated with flowers.

( ) 33. She carried a hand bag.
( ) 34. The sleeves of her dress were short.
( ) 35. $75 was the offer made for the old car.
( ) 36. The new car purchased was a Chevrolet.
( ) 37. This car was equipped with Alemite greasing system because the lady read an advertisement which appealed to her.
( ) 38. They were told it would take 45 minutes to install the new system.
( ) 39. The price of the outfit was $6.50.
( ) 40. When this couple alighted in the country for their outing, the man wore a cap.
( ) 41. At this time the lady wore a different hat, one decorated with a feather on the right side.
( ) 42. The boy who fell from a cliff wore tennis shoes.
( ) 43. It was said in the title that the boy in falling had probably sprained his ankle.
( ) 44. They started to take him to the hospital in the old car shown earlier in the picture as an example of bad lubrication.
( ) 45. This car was stopped on the highway apparently because of a broken roller bearing.
( ) 46. The road leading from the scene of the accident to the hospital was paved with brick.
( ) 47. At least four people were watching the boy when he fell.
( ) 48. The car to which the injured boy was transferred had a carrier on the left side.
( ) 49. There was a package on the carrier which might have been a part of a camping outfit.
( ) 50. The first two numbers on this new car in which the boy was transported were 81.
( ) 51. Give as much of the number of this car as you could get .....
( ) 52. This car was equipped with both front and rear bumpers.
( ) 53. This car was equipped with a spotlight.
( ) 54. This car was a two door sedan.
( ) 55. The two men who stood together watching the boy when he fell from the cliff wore straw hats.
( ) 56. One of these men was slightly bald.
( ) 57. Four girls in knickers appeared at the scene of the accident.
( ) 58. The lady who rode in the old squeaky car wore some sort of a necklace.
( ) 59. Her companion wore a four-in-hand tie and white collar.
( ) 60. The operation performed on the boy was reported as successful.

Legend for Chart I

Numbers 1 to 60 in the first column refer to numbered items in the test on the film "Squeaks". In the following columns the result on each of these items is given for each of several cities indicated by the letters A, B, C, D, and E. In the final column averages are given. The data from which these computations were made is on file with the author.

CHART I

Percentages

	A	B	C	D	E	Ave.	Total %
1	29	00	18	52	17	23.2	25.7
2	24	00	18	56	17	23.0	25.0
3	31	00	18	19	00	13.6	15.4
4	38	11	00	33	29	22.2	27.9
5	67	28	55	48	57	51.0	54.4
6	91	39	—9	—19	69	85.4	85.3
7	73	22	64	93	57	61.8	65.4
8	47	22	45	48	46	41.6	43.4
9	9	00	9	11	6	7.0	7.4
10	62	22	18	56	34	38.4	44.9
11	22	22	9	22	6	16.2	16.9
12	42	44	9	37	26	31.6	34.6
13	38	6	36	26	11	23.4	24.3
14	31	6	18	30	17	20.4	22.8
15	31	11	9	41	11	20.6	23.5
16	27	6	00	7	6	9.2	12.5
17	18	6	00	7	6	7.4	9.6
18	27	11	00	11	6	11.0	14.0
19	49	17	91	89	54	60.0	57.4
20	56	39	—9	44	29	55.0	48.5
21	51	6	00	30	23	22.0	29.4
22	38	6	9	11	11	15.0	19.1
23	87	61	91	26	24	59.8	58.1
24	76	61	91	30	57	63.0	61.0
25	100	100	91	100	86	95.4	95.6
26	—2	94	64	67	91	83.6	88.2
27	100	—28	64	96	—3	98.2	—(0.7)
28	27	33	64	37	23	36.8	31.6
29	56	00	45	59	40	40.0	44.1
30	53	17	18	7	17	22.4	27.2
31	53	22	9	19	17	24.0	29.4
32	—2	11	55	41	23	46.4	53.7
33	—51	100	—73	—52	—60	—47.4	—(48.5)
34	—4	56	64	—11	—6	88.2	96.3
35	9	00	00	7	6	6.0	5.9
36	22	00	00	15	6	8.6	11.8
37	27	00	00	7	11	9.0	13.2
38	22	00	00	4	00	5.2	8.1
39	—20	50	91	78	86	85.0	91.2
40	—42	—11	100	—85	—31	—33.8	—(40.4)
41	—40	—44	—36	—67	—54	—48.2	—(49.3)
42	96	78	45	89	69	75.4	80.9
43	29	00	00	00	6	7.0	11.0
44	29	33	18	7	6	18.6	18.4
45	(Omitted)						
46	33	6	9	11	6	13.0	16 2
47	42	6	00	59	00	21.4	26.5
48	42	22	36	44	34	35.6	37.5
49	33	11	36	37	29	29.2	30.1
50	91	50	—9	63	74	77.4	77.2
51	100	78	100	82	91	90.2	91.2
52	73	—33	—36	—30	—20	—18.4	—(10.3)
53	—31	—67	—64	—67	—23	—50.4	—(43.4)
54	22	11	18	15	00	13.2	13.2
55	76	33	55	30	51	49.0	52.9
56	40	50	55	44	40	45.8	43.4
57	51	39	73	44	40	51.0	49.3
58	—29	—28	—27	—56	—37	—35.4	36.0
59	80	78	55	74	37	64.8	65.4
60	44	6	9	30	9	19.6	24.3
Tot.	3535	2241	3112	3180	2569	2875.4	
Ave.	59.9	37.9	52.7	53.9	43.5	48.74	

Legend for Chart II

The formula used to compute the S. D. is:

$$\text{S. D. equals } \sqrt{\frac{\Sigma\, d^2e}{n} - (A\text{-}E)}$$

and is taken from Jerome's Statistical Method.[21] The S. D. is computed here as a measure of dispersion. It shows in all the cases a wide distribution of scores. It is used here to show the wide dispersion of scores made by individuals in the various groups. Some human traits, both inborn and acquired, show a high bell shaped curve. The particular trait measured in these tests seems to be of a different kind—one in which there is comparatively little concentration in the middle ranges of ability.

The coefficient of variability. V equals $\frac{\text{S. D.}}{A}$ 100. is also computed. It shows the relative dispersion in the form of percentages of the mean. The fact that V equals 17.3 for the B police and 34.5 for city D simply means that the individuals in group B were more alike than those in group D. This study can furnish no reasons for the differences.

The range of scores, the medians and the S. D.'s are tabulated for ease of comparison. They show a wide range of scores in each group taking the test and are probably the most significant in relation to the variability of groups. The small S. D. (11.89) for the group of eight policemen is not very significant as compared with the other S. D.'s because of the small number in the group. It is well over 5 P.E.,however, as indicated by the computation:

$$\text{P. E. equals } 0.6745 \sqrt{\frac{11.89}{16}} \text{ equals } 2.13$$

V, the coefficient of variation, shows the trait measured to be highly variable in each group. The difference between groups in this degree of "unlikeness" is not accounted for by this study.

The numbers in parentheses, (18) (11), etc., show how many individuals in each group wrote the tests. The ranked scores are given below to show more simply the distribution:

City B 85, 80, 78, 75, 73, 72, 68, 67, 62, 62, 58, 53, 53, 48, 47, 47, 43, 25.
City C 67, 66, 64, 58, 47, 44, 44, 44, 39, 36, 30.
City D 78, 72, 70, 67, 64, 63, 59, 59, 59, 52, 50, 50, 48, 48, 47, 45, 44, 44, 44, 42, 38, 34, 33, 30, 30, 11, 9.
City E 87, 86, 80, 80, 73, 69, 69, 67, 64, 63, 61, 59, 58, 56, 56, 56, 53, 53, 53, 53, 52, 52, 50, 50, 47, 45, 45, 41, 41, 38, 38, 34, 33, 27, 20.

CHART II

SQUEAKS

			Accuracy				
Number	(18) B	(11) C	(27) D	(35) E	(8) Bp	(10) Bo	(91) Totals
Range	85	67	78	87	85	75	87
	25	30	9	20	47	25	9
Median	62	44	48	53	70	53	53
S. D.	15.08	12.24	16.49	15.63	11.89	14.40	16.14
			Error				
Range	15	33	22	13	15	25	13
	75	70	91	80	53	75	91
Median	38	56	52	47	30	47	47 mean

[21] Jerome, Harry, Statistical Method, 1924 p. 157.

Legend for Chart III

To facilitate comparison, groups are designated by the same letters on this as were used to designate the same groups on preceding charts. A new group is here introduced designated as F. This represents an unselected group of graduate students in the University of Wisconsin. The data were obtained for comparison with the police groups through the courtesy of Prof. A. H. Edgerton who allowed the test to be given to his seminar in Vocational Guidance. Group B is again subdivided as on previous Charts. In this case the 28 members of group B are divided as follows: Police 8, other citizens, 16, papers which could not be identified as written by members of either group 4. All comparisons made for this chart are made by methods already discussed in connection with preceding charts.

CHART III

Percentages

	A	B	F	C	D	E	Av.	Bp.	Bo.	Total
1	27	7	00	50	23	21	21.3	00	13	20.4
2	20	14	00	00	3	23	10.0	25	13	14.8
3	16	21	00	63	50	9	26.5	25	00	21.6
4	64	43	83	50	92	48	63.0	25	50	61.1
5	9	7	00	00	12	00	4.7	00	00	5.6
6	80	71	17	38	73	45	54.0	75	63	61.1
7	95	61	33	63	85	100	72.8	63	38	82.7
8	23	18	00	25	23	9	16.3	25	13	16.7
9	52	18	00	38	62	50	36.7	00	13	42.6
10	34	11	00	25	65	32	27.8	00	13	31.5
11	25	21	17	50	12	11	22.7	25	19	19.1
12	16	11	00	38	31	18	19.0	25	00	17.9
13	39	7	17	38	27	16	24.0	00	00	23.5
14	59	39	33	75	—23	43	62.0	00	44	60.5
15	36	18	33	63	46	23	36.5	00	19	32.1
16	27	36	00	25	8	5	16.8	25	56	17.3
17	—64	—89	—17	—50	—38	—66	—54	—100	—88	—60.5
18	—14	—18	100	—63	—35	100	—21.7	100	—38	—15.4
19	91	61	83	—38	96	64	88.8	100	50	80.9
20	100	71	66	—13	—15	55	70.0	75	75	83.3
21	18	14	17	50	31	27	26.2	25	00	23.5
22	39	00	00	00	35	23	16.2	00	00	22.2
23	18	14	00	00	12	9	8.8	00	13	11.7
24	61	32	17	75	58	68	51.8	25	25	54.9
25 Ave.	44	41	24	33	66	36	40.7	70	21	42.8
a	34	18	17	25	54	23	28.5	38	00	29.6
b	45	25	17	38	65	43	38.8	88	00	42.0
c	50	68	17	50	77	50	52.0	100	38	54.9
d	34	43	17	25	73	34	37.7	63	19	40.1
e	55	54	50	25	62	32	46.3	63	50	47.5
26 Ave.	80	73	50	63	85	76	71.2	83	64	75.3
a	98	43	17	25	73	34	38.3	38	31	57.4
b	52	96	50	75	69	73	69.2	100	94	69.1
c	—16	—25	—17	100	—12	—30	—33.3	—50	—6	—19.8
d	39	32	17	38	58	43	37.8	50	19	40.1
e	93	68	50	75	—15	100	83.5	75	69	90.1
27 Ave.	84	85	63	60	85	63	73.3	98	69	75.7
a	95	—61	100	13	54	18	73.3	—75	—31	75.3
b	39	43	33	50	96	45	51.0	75	25	50.6
c	25	14	00	00	50	14	17.2	38	00	21.0
d	—5	64	50	100	77	93	81.5	63	69	85.8
e	—55	—43	—33	—38	—46	—43	—43.0	—38	—19	—45.7

	A	B	F	C	D	E	Av.	Bp.	Bo.	Total
28	25	21	00	00	19	9	12.3	25	6	16.0
29	52	75	75	—13	69	41	70.8	—13	63	60.5
30	70	89	58	—13	81	48	76.5	—13	75	70.4
31	36	29	17	50	73	41	41.0	38	19	41.4
32	(omitted)									
33	100	71	66	—25	—8	—27	99.5	63	81	—2.5
34	43	25	8	38	46	14	29.0	38	13	29.6
35	55	61	17	50	58	27	44.7	88	50	45.7
36	11	18	8	25	12	18	15.3	13	13	14.8
37	52	32	25	38	31	14	32.0	13	38	32.1
38	50	50	25	38	46	23	38.7	63	44	39.5
39	64	50	66	88	58	91	69.5	38	56	69.1
40	20	14	8	13	27	7	14.8	13	6	15.4
41	68	46	75	63	58	84	65.7	38	44	67.3
42x	16	7	00	25	54	7	18.2	13	00	17.3
43	30	61	00	50	—12	59	52.0	88	38	54.9
44	52	68	00	38	69	64	48.5	88	50	56.2
45	16	18	00	25	38	14	18.5	13	13	18.5
46x	11	4	00	38	38	7	16.3	13	00	13.6
47x	25	18	00	63	54	27	31.2	25	6	29.0
48x	43	11	8	25	54	30	28.5	13	00	32.1
49	45	45	17	00	88	14	35.0	13	63	39.5
50	66	61	17	38	96	16	49.0	38	63	51.2
51	50	32	33	63	31	25	39.0	63	13	36.4
52	23	46	17	50	38	36	35.0	13	38	34.0
53	82	71	75	—13	96	61	83.0	88	56	77.8
54	—5	—32	—25	—38	—19	—18	—22.8	—38	—31	—18.5
55	86	79	33	88	69	84	73.2	63	81	77.8
56	41	—14	33	100	96	98	80.3	—38	94	80.2
57	25	29	8	88	42	27	36.5	38	13	30.9
58x	59	93	75	63	88	89	77.8	100	75	79.0
59	(omitted)									
60	43	46	00	50	81	66	47.7	38	50	53.1
61	30	32	33	38	58	21	35.8	38	25	32.7
62	66	39	50	50	85	45	55.8	38	44	56.8
63 Ave	39	14	00	38	66	23	30.0	16	6	31.8
Moth.	39	7	00	25	62	18	25.2	13	00	27.8
Fath.	34	11	00	50	62	25	30.3	13	00	30.2
Nurs.	36	11	00	25	65	25	27.0	13	6	30.2
Inte.	48	25	00	50	77	25	37.5	25	19	38.9
Totals	3034	2703	1776	3421	3749	2615	2502.1	2820	2364	2900.3
Ave.	49.74	44.31	29.12	56.08	61.46	42.87	41.0	46.23	38.75	47.55

CHART IV

My Pal

Accuracy

Number	(12) F	(26) B	(8) C	(26) D	(44) E	(8) Bp.	(16) Bo.	Totals
Range	87	84	75	78	86	72	84	87
	54	4	—3	1	23	4	46	—3
Median	71	62	49	36	63	63	65	58
S. D.	9.48	20.30	23.86	17 38	15.86	25.03	10.82	20.34

Error

Range	13	16	25	22	14	28	16	13
	45	96	103	99	77	96	54	103
Median	29	38	51	64	37	37	35	42

Only a few of the most significant items in the foregoing data will be discussed here. When the 136 answers to each of the 60 items on chart VIII were scored and a percentage of error computed by methods already described, 6 of the items were found to yield percentages of error of over 100%, indicated by parentheses as—(0.7) for item No. 27. The numbered items along the left hand margin of chart I correspond to similarly numbered statements in the test form used. The six items on which these 136 people would have given a better version of what actually happened by a chance marking of their papers without ever having seen the picture are numbers: 27, 33, 40, 41, 52, 53 and 58. If there is a chance not only for one man's observation to be so much in error as to have negative value but for the pooled testimony of 136 witnesses to be more in error concerning an event enacted before their eyes in moving pictures and capable of exact reproduction than would be expected from 136 individuals who had not seen the picture the fact has tremendous significance to our system of justice and to the importance of selecting, training and assigning our policemen. Each of these 6 items is of sufficient importance to state and discuss the fact concerning which so much error occurred.

Item No. 27 reads: "The old car had two oval rear windows." The statement is true and would be a very important item in identifying a car. This car was prominent in the picture both standing still and in motion for long intervals. Why did so much error occur in the description? No positive answer can be given. A surmise which may or may not be correct would be that the observers were so intent on trying to get the license number which was extremely difficult to get (indicated by the results on items No. 23, 24 and 25) that the windows were either wholly unseen or included as marginal to the eye-span so as to leave a badly distorted impression. It would be considered a legitimate question for the cross questioning attorney to ask one of these witnesses about the windows and an error would be damaging to his whole story. Refusal to answer one of these true-false questions would be held as contempt of court in many jurisdictions. A lawyer or judge wholly untrained in the social sciences may be expected to be ignorant of the fallibility of witnesses but this ignorance weakens our system of justice and subjects it to derision. Policemen should be shown the possibilities of error and drilled in accuracy of observation.

Item No. 33 states "She carried a handbag." The pronoun "she" is not ambiguous because it refers to the lady described in the pre-

ceding statement. "She" could not easily have been confused with any other individual in the picture. This item yielded a percentage of error of 148.5 (—(48.5) on the chart). This is a true statement. The lady described did carry a handbag which could easily be seen but which seemed much less prominent than the two oval windows referred to in item No. 27. The presence or absence of this handbag might be the basis of an important question in court. The attention of all observers was fixed on the screen by an interest which would have to be seen to be appreciated. They had been cautioned to observe every item and were trying to prepare themselves to make accurate responses to objective statements. It would seem as if the chances for an accurate report would be greater than could be expected concerning an incident which happened with no such focusing of attention perhaps several days before the witness was questioned concerning it. Yet these 136 witnesses were 48.5% more in error than they would have been by guessing.

Item No. 40 is "When this couple alighted in the country for their outing the man wore a cap." This is also a true statement, in fact, each of the six items giving over 100% error were true rather than false statements on this test. There should have been no ambiguity in the reference to "this couple" because "they" were the hero and heroine respectively and could not easily have been confused with any other characters. This item gave a percentage of error of 140.4% (—(40.4) on the chart). The man had worn a straw hat in the first part of the picture but changed his headgear for a cap. A fact is stated here which might easily be an important link in a hasty identification.

Item No. 41 states "At this time the lady wore a different hat, one decorated with a feather on the right side." This is a companion statement to the one above and gives about the same percentage of error, 149.3%.

Item No. 52 states "This car was equipped with both front and rear bumpers." This gave an error of 110.3%.

Item No. 53, "This car was equipped with a spot light." Gave an error of 143.4%.

Inspection shows 16 items on which the error was from 50 to 100%, i. e., numbers 5, 6, 7, 19, 23, 24, 25, 32, 34, 39, 42, 50, 51, 55, 59. Six of these are true statements, two are completion statements calling for objective information and eight are false statements, i. e., statements in which the observer affirms as present objects or acts which were not in the picture at all. Some of these false per-

ceptions by so large a percentage of a group of 136 people are quite remarkable. Item No. 7, "The driver of one of the old wooden chariots cooled and lubricated one of the axles by scooping up some water in an old tin can and pouring it over the axle." This statement refers to an incident in an animated cartoon which had a very prominent place in the picture. There was no tin can in the picture 42 people saw one as indicated by their answers and 5 omitted this item giving a percentage of error of 65.4.

Item No. 19, "The box on which the typewriter rested was labelled 'soap'" gave 57.4% error. There was a box about the size of a soap box but it was labelled "Old Corn Willy." Many of the other percentages in this group should be equally startling to one who is still willing to put a witness under oath to tell "the truth, the whole truth and nothing but the truth, so help me God."

A further conclusion to which one is forced by the data is that it is practically impossible to find any item so apparent or obvious that some one of a large number of observers will not fail to observe it or else will see it wrong. Every one of the sixty statements on this list was marked wrong by at least three people and omitted by others. Item No. 35 was the one which caused the least difficulty but the error on this was 5.9%.

Item No. 9 which says "Water was poured on both wheels" is a false statement which would seem too obvious to escape anyone, yet it furnished an error of 7.4%.

The error in the following items is likewise astonishing to one untrained in the fallibility of a human witness. In Item No. 1, fifteen people saw a bottle in the picture and 5 were in doubt when there was no bottle there to be seen. Eleven observers saw dinner prepared on an iron cook stove and nine were in doubt when, as a matter of fact, there was no dinner prepared and no iron cook stove (Item No. 14). Six people saw cannon and machine guns in the picture and five were in doubt (Item No. 16) when there were neither cannon nor machine guns to be seen.

Quite similar results are shown by an analysis of the results on the film "My Pal," (Chart VII) a film advertising the Cleveland Six Car. Inspection will show that some of the items of this test were of a different nature, namely, numbers 25, 26 and 27 which call for rather detailed descriptions of persons. This film also furnished six items with a higher percentage of error than would be expected from chance results, i. e., numbers 17, 18, 26-c, 27-e, 33 and 54. Only a

few of the statements on this test will be discussed as a supplement to the discussion of errors on the previous test.

Item No. 18. "There was a box or compartment for luggage on the rear of the car." This is a true statement and refers to an object so conspicuous that it is hard to believe that 162 witnesses could be in error concerning it by 115.4%.

Item No. 14. "Something which resembled a camping outfit was wrapped in bundles on the left side of the car," gave an error of 60.5%.

There was a collie dog in the mountain camp pictured yet 47 people testified that there was no dog (item 41) and 15 were in doubt (67.3% error).

For convenience in comparing the records of various groups their percentage ratings on the various items is brought together in adjacent columns of each chart. In the case of the film "My Pal" a further comparison is made possible by the fact that the picture was shown to a small group of graduate students, 12 in number (designated F on the chart) and one group (designated B on the chart) was made up of eight policemen and four whose papers did not indicate their vocational status designated Bo and Bp on the chart. It will be noted that the group of graduate students (Chart III "My Pal") made by far the lowest percentages of error (29.12%). This should be a highly significant result because of the fact that 60 separate items are averaged to get the totals and each of these 60 items is the result of twelve peoples' scores making a total for statistical validity of 12 times 60 items or 720 items. It is shown also that the group of 16 "other citizens" designated by the letters Bo on the chart made the next lowest percentage of error (38.75%) and that the policemen watching the picture at the same time made an error of 46.23%.

To be very conservative in our conclusion, from such results we can say that policemen do not possess the power to observe and report what they see with the high degree of accuracy which their work demands. "Observation" is not found developed among these policemen to the degree we should expect in a highly professionalized group with specialized training.

The two, charts II and IV, indicate the extreme variability of human beings in their ability to "observe" and "report" in simple "yes and no" or "true-false" statements. The rankings are in "percentages of accuracy" rather than in "percentages of error." On the film "Squeaks" the individuals range all the way from an accuracy

of 87% down to 9%. On "My Pal" the range is from 87% to —(3)%. In other words, one observer marked his paper consisting of 63 responses with 3% more error than we would expect him to have by flipping a penny to decide how each item should be marked and this man was a police officer with years of experience who is called upon frequently to testify as part of his daily work to the truth or falsity of questions put to him. What is even more important, the correctness or error of his answers may convict a man of murder or set him free; may send a man to prison or proclaim him innocent. How long will society leave such important matters to policemen selected by chance or politics and untrained for their vocation? Which of these policemen is indicated by the data as of the most value to his department, the one capable of observing a moving picture with many details with 87% accuracy or one who sees accurately less than nothing? Of course there are other indices of vocational aptitude but such a range of ability as is here indicated should no longer be ignored.

Objective studies of testimony have been made by Whipple[22] and by Marston[23] using a different approach. In Whipple's study considerable light was thrown on the effect of a lapse of time on the memory of a witness. Seldom is a witness called upon to testify immediately after seeing an incident. If his mental picture always has a tendency to fade as Whipple has indicated that it does, the fallibility of a witness is greater than has here been indicated.

Some of the distinctive features of the Wisconsin police schools which differentiate them from other types of training are:

1. The school is taken to the men instead of the men going away to school. The course of instruction is given in the city which requests it. All or nearly all the men can be enrolled and attend at the same time.

2. It is given in weekly "sessions" spread over eighteen weeks rather than as a continuous effort demanding all of the men's time. This can either make possible extensive reading and preparation by the men or it can result in forgetting and loss of interest.

3. Instructors trained in the art of teaching can be brought in from an institution of learning to instruct policemen in their various specialties. This may result in enrichment of the course as it would be given by department members or it may result in lectures framed

[22]Marston, William M., Studies in Testimony, JOUR. CRIMINAL LAW AND CRIMINOLOGY, XV, 1924, p. 1.

[23]Whipple, G. M., The Obtaining of Information, Psychology of Observation and Report, *Psychol. Bul.*, XV, 1918, p. 217.

in language the average policeman cannot understand, and illy adapted to the policeman's needs.

4. The courses can easily be rearranged or modified. A lecture can be expanded into two or four or a series as the demand for it is sensed or a subject can be eliminated altogether if it fails to fill a real need.

5. An opportunity is offered not only for instruction but many possibilities of research suggest themselves as policemen come more and more to see the need of professionalization and specialized training. Research can be carried on by a happy relationship between the men on the firing line and the teacher who is able to sense its need and direct the efforts of the men.

6. The University of Wisconsin schools have as yet left much to local initiative. While the importance of marksmanship, wrestling, the legal code and many other form of instruction has been emphasized the acquisition of many of them has been left to local initiative.

7. No highly professionalized courses going deeply into one phase of the policeman's problem have been worked out as yet as they have at Berkeley and by the University of Southern California. Opportunity is offered interested students to take up reading courses which might compare very favorably with some college courses.

8. The wide range of ability and experience of the men grouped in each class has limited the training to such as could be made helpful to all. Whether a demand will come from policemen and citizens for higher standards and higher status remains to be seen.

Note. Since the completion of this article the author has left the University of Wisconsin to become Superintendent of the Juvenile Detention Home in Chicago. In the interval, the University of Wisconsin Police Schools have been discontinued.